

Phosphorus Fertilization – Needed or Not?
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In the past several years there has been a lot of hype about using phosphorus fertilizer in the landscape. Several states, Minnesota included have passed laws that prohibit the addition of phosphorus into the landscape unless there is a documented deficiency from soil test results, the planting is newly established, or the space is used for vegetable gardening. The first question we must tackle is why is phosphorus important to plants?

Phosphorus (P) is a plant macronutrient that is found in sugar phosphates, nucleic acids, coenzymes, and plays a major role in cellular energy transfer. Plant tissue analysis typically shows phosphorus to be at a concentration of about 0.5%. That doesn't seem like much for a macronutrient, and in fact it is not as compared to nitrogen (N) and potassium (K) which are both at 4.0%. This tells us a couple of things.

First, plants don't need a whole lot of phosphorus for normal growth. Soil test results are typically between 20 and 30 ppm phosphorus according to the soil testing labs. The University of Minnesota recommendations indicate that a soil test level of over 25 ppm does not need any additional phosphorus added. Even lawns that need additional phosphorus only need about 0.5 lb P/1000 sq. ft. Nitrogen and potassium are more critical for normal plant growth.

Phosphorus is an immobile nutrient in the soil. This means that once it is in the soil it stays there unless it is used by plants. Likewise if you don't bag your lawn clippings, you are adding phosphorus to your soil. With this in mind it is important to not leave your clippings in an area where they may enter waterways as this will directly cause pollution to lakes and streams.

Phosphorus can cause algal blooms in ponds, lakes, and streams when it is introduced into the waterway. This algal bloom can cause fish and other wildlife to die as oxygen is used in the water. If we can keep phosphorus from enter our wetlands we can improve the water quality and the ecosystem will flourish.

To review, most soils have sufficient P for turf grass, plants don't need large amounts of P, and sufficient amounts of P can be applied simply by recycling grass clippings in your yard. The take home message here is that most of our lawns will not need additional phosphorus so don't worry about it. Keep your eyes open and remember that the middle number should be zero on the bag of fertilizer. You may have to look around a bit for fertilizer this spring or call ahead of time.

If in doubt about your lawn get a soil test done. My office has soil test kits available at no charge SDSU soil testing labs. The cost to have a test completed with a recommendation is usually around fourteen dollars. If you tell me you read about this in my article I will tell you my secrets to successful soil sampling to get you off on the right foot.

If you have additional questions about fertilizing your lawn and garden feel free to call me at 605-394-2188 or e-mail me at ricky.abrahamson@sdstate.edu.

